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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/772,628	01/30/2001	Akihiro Iino	S004-4198	9945

7590

04/26/2002

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EXAMINER

BUDD, MARK OSBORNE

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 04/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

772 628

Applicant(s)

Iino & al

Examiner

M. Budd

Group Art Unit

2834

--The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address--

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 3-5-02
- ☒ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-3, 6-9, and 11-40 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) _____ is/are rejected.
- ☒ Claim(s) 7-9, 11, 12, 15, 27, 35, 36 and 38 is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☐ Notice of References Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

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Claims 14-16, 21 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

These claims are vague and indefinite in that electrodes are not polarized a piezoelectric ceramic can be polarized" but metal electrodes are not polarized. Electrodes can have signals of various polarities applied to them. Assuming electrodes can thus have a polarity at any given time both the time and polarity would need to be described to have any meaning.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-3, 6, 13, 14, 16, 19-26, 28-35 and 40 are rejected under 35 U.S.C. 102(a) as being anticipated by Takagi, Okazaki or Zumeris.

Each reference teaches a vibration body, a piezoelectric element a protrusion and a moving body., It is noted that "the vibration wave having a vibration node disposed on a diagonal line of the vibration body" is merely a statement of desired function sine there is no corresponding structure or means claimed that would produce such a result. Note too, that each of Takagi, Okazaki and Zumeris have at least a central (center) nodal point, which point lies at the intersection of both diagonals and thus is disposed on the diagonals.

Claim 17 is rejected under 35 U.S.C. 102(a) as being anticipated by Shirasaki.

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Note figs. 1B and 4B show the vibrating body with a piezoelectric element and a plurality of electrodes (the stator) while fig. 3 shows that a rotor is pressed onto the stator to form a complete motor.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi, Zumeris or Okazaki.

The references teach the claimed structure except for an explicit transmission mechanism between the motor and the output member. However, as is well known (official notice taken), motors are often coupled to generating to reduce/increase output speed or torque or to change form one type motion to another (e.g. rotary to linear/reciprocating). Thus to provide a transmission at the output of the motors of Takagi, Okazaki or Zumeris would have been obvious to one of ordinary skill in the art.

Claims 1-3, 6, 13, 14, 16, 18-26, 28-35, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan (382) in view of Takagi, Zumeris or Okazaki..

As noted in paper no. 4 (10-18-01). Assuming the characterized phrase was given the benefit of defining structure Japan (382) teaches (fig. 3) a piezo motor with nodes along diagonal

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lines but does not explicitly show the moving body and an output projection at a non-nodal portion. However, each of Zazaki, Takagi and Zumeris teach providing a moveable output member and that motion should be extracted at a non-nodal location. This is because there is no useable motion at a nodal area. Thus it would have been obvious to one of ordinary skill in the art to provide a non-nodal output protrusion and moveable member to figure 3 of Japan (382). Applicants' remarks are noted, however, since it is both obvious and well known to extract movement from non-nodal areas (since it is not possible to extract output at a node), and Japan (382) would be useless without extracting an output it would have been obvious to provide a non-nodal output for Japan (382). Provision of a protrusion amplifies the output and protects the vibrating body from wear.

Claims 7-9, 11, 12, 15, 27, 35, 36 and 38 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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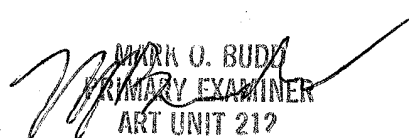
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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Budd/ds

04/24/02


MARK O. BUD
PRIMARY EXAMINER
ART UNIT 212